ABSTRACT OF THE DISCLOSURE

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3	A network switch includes at least one port processor and at
4	least one switch element. The port processor has an SONET OC-x
5	interface (for TDM traffic), a UTOPIA interface (for ATM and
6	packet traffic), and an interface to the switch element. In one
7	embodiment, the port processor has a total I/O bandwidth
38	equivalent to an OC-48, and the switch element has 12x12 ports for
9	a total bandwidth of 30 Gbps. A typical switch includes multiple
10	port processors and switch elements. A data frame of 9 rows by
1	1700 slots is used to transport ATM, TDM, and Packet data from a
12	port processor through one or more switch elements to the same or
13	another port processor. Each frame is transmitted in 125
14	microseconds; each row in 13.89 microseconds. Each slot includes
15	a 4-bit tag plus a 4-byte payload. The slot bandwidth is 2.592
16	Mbps which is large enough to carry an E-1 signal with overhead.
17	The 4-bit tag is a cross connect pointer which is setup when a TDM
18	connection is provisioned. The last twenty slots of the frame are
19	reserved for link overhead. Thus, the frame is capable of
20	carrying the equivalent of 1,680 E-1 TDM signals. For ATM and
21	packet data, a PDU (protocol data unit) of 16 slots is defined for
22	a 64-byte payload. The PDUs are self-routed through the switch
23	with a 28-bit routing tag which allows routing through seven
24	switch stages using 4-bits per stage. Bandwidth is arbitrated
25	among ATM and Packet connections while maintaining TDM timing.